

ACCESSION #: 9811090101

NON-PUBLIC?: N

LICENSEE EVENT REPORT (LER)

FACILITY NAME: Susquehanna Steam Electric Station - PAGE: 1 OF 3

Unit 1

DOCKET NUMBER: 05000387

TITLE: Reactor Scram

EVENT DATE: 10/3/98 LER #: 98-016-00 REPORT DATE: 11/2/98

OTHER FACILITIES INVOLVED: DOCKET NO: 05000

OPERATING MODE: 1 POWER LEVEL: 100

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR SECTION:

50.73(a)(2)(iv)

LICENSEE CONTACT FOR THIS LER:

NAME: Cornelius T. Coddington - Senior TELEPHONE: (717) 542-3294

Engineer, Licensing

COMPONENT FAILURE DESCRIPTION:

CAUSE: SYSTEM: COMPONENT: MANUFACTURER:

REPORTABLE TO EPIX:

SUPPLEMENTAL REPORT EXPECTED: NO

ABSTRACT:

On October 3, 1998 at 1424 hours, with Unit 1 in Mode 1 (Power Operation) at 100 % power, the generator backup lockout relays tripped, tripping the generator and in-turn causing a reactor SCRAM via a turbine control valve fast closure signal. The unit responded as expected to the SCRAM. All control rods inserted. Reactor water level dropped below 13 inches and all isolations were completed. Reactor water level was

restored using feedwater. The recirculation pumps tripped due to the end-of-cycle recirculation pump trip (EOC-RPT). Four safety relief valves (SRVs) lifted and re-seated. There were no diesel starts or Emergency Core Cooling system (ECCS) initiation associated with this event. The cause of the event was a pitted contact on the main generator potential transformer circuitry, resulting in a false signal to the generator ground circuitry. Completed corrective action included refurbishment of main generator potential transformer (PT) disconnect contacts and testing of associated relay circuits. Corrective actions to be completed include 1) evaluation of maintenance activities, 2) reviewing this event with appropriate Nuclear Department personnel, and 3) revising maintenance procedures to incorporate additional contact maintenance on a routine basis. The plant responded to the generator trip and subsequent reactor SCRAM as expected. There were no safety consequences or compromises to public health and safety as a result of this event.

TEXT PAGE 2 OF 3

#### EVENT DESCRIPTION

On October 3, 1998 at 1424 hours, with Unit 1 in Mode 1 (Power Operation) at 100 % power, the generator backup lockout relays (EIS Code: 1) tripped, tripping the generator and in-turn causing a reactor SCRAM via a turbine control valve fast closure signal. The unit responded as expected to the SCRAM. All control rods inserted. Reactor water level dropped below 13 inches and all isolations were completed. Reactor water level was restored using feedwater. The recirculation pumps tripped due to the end-of-cycle recirculation pump trip (EOC-RPT). Four safety relief valves (SRVs) lifted and re-seated. There were no diesel starts or Emergency Core Cooling system (ECCS) initiation associated with this event.

#### CAUSE OF EVENT

The generator backup lockout relay tripped due to development of a high resistance across a secondary disconnect contact (associated with the main generator ground overvoltage circuitry) located in the main generator "A"

phase regulating PT (potential Transformer) cabinet. The resistance of the disconnect contact became large enough so as to cause a voltage drop in the relaying circuit which was of sufficient magnitude that it provided a false unbalanced voltage signal to the main generator ground overvoltage relay. The overvoltage relay sensed this unbalanced voltage condition and actuated. The main generator potential transformer disconnect contacts were to be refurbished during the Unit 1 Tenth Refueling Outage. However, a decision was made not to refurbish the relay contacts based on an acceptable electrical resistance reading.

#### REPORTABILITY/ANALYSIS

This event was reported within four hours as required by 10CFR50.72(b)(2)(ii). This report is being written per 10CFR50.73(a)(2)(iv), in that the reactor Protection System (RPS) was activated, constituting an Engineered Safeguard Feature (ESF) actuation. As previously noted, the plant responded to the generator trip and subsequent reactor SCRAM as expected. There were no ECCS initiations or injections and no emergency diesel generator starts. Four Safety Relief Valves lifted and reseated following the reactor SCRAM. All required safety-related equipment was available throughout the event. Based on the above, there were no safety consequences or compromises to public health and safety as a result of this event.

In accordance with the guidelines provided in NUREG-1022, Revision 1, Section 5.1.1, the required submission date for this report was determined

to be November 2, 1998,

#### CORRECTIVE ACTIONS

The following corrective actions have been completed:

- o Refurbished the disconnect contacts in the PT circuits.
- o Tested the trip relays and associated circuits.

#### TEXT PAGE 3 OF 3

The following corrective actions are to be completed:

- o Review this event with appropriate Nuclear Department personnel.
- o Performing an evaluation of maintenance activities with respect to main generator potential transformer circuitry.
- o Revise maintenance procedures to incorporate additional contact maintenance on a routine basis.

#### ADDITIONAL INFORMATION

Past Similar Events: None

Failed Component: None

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